IN THE CLAIMS:

1.   (Currently amended) A method for partitioning a computer network end node, the method comprising:

virtualizing a plurality of network devices on a single multi-function chip by means of a combination of hardware and software to form virtual network devices; and

virtualizing at least one router on the single multi-function chip by means of a combination of hardware and software to form a virtual router, wherein the virtual router performs control-flow processing for the virtual network devices, and wherein the virtual router functions of destination lookup and packet forwarding are incurred only on control-flow processing;

wherein the virtual network devices and virtual router form a virtual subnet.

2.   (Original) The method according to claim 1, wherein the virtual network devices are host channel adapters.

3.   (Original) The method according to claim 1, wherein the virtual network devices are target channel adapters.

4.   (Original) The method according to claim 1, further comprising assigning unique identifiers to the virtual network devices.

5.   (Currently amended) The method according to claim 1, further comprising virtualizing a plurality of subnets on the single multi-function chip by means of software.

6.   (Original) The method according to claim 1, further comprising registering the virtual subnet with a physical subnet.

7.   (Currently amended) The method according to claim 6, wherein the physical subnet perceives the single multi-function chip as only a single router with multiple [[HCAs]] Host Channel Adapters residing behind it.

8. (Original) The method according to claim 6, wherein nodes in the physical subnet communicate with the virtual subnet through the virtual router.

9. (Currently amended) The method according to claim 1, wherein the single multi-function chip provides resource configuration and allocation interface that allow software, firmware and hardware state machines to set an operating policy for the virtual network devices.

10. (Currently amended) The method according to claim 1, wherein the single multi-function chip provides standard device functions directly to the virtual network devices by means of physical queue pairs even though those devices logically reside behind a virtual router.

11. (Currently amended) A computer program product in a computer readable medium for use in a data processing system, for partitioning a computer network end node, the computer program product comprising:

instructions virtualizing a plurality of network devices on a single multi-function chip to form virtual network devices; and

instructions for virtualizing at least one router on the single multi-function chip to form a virtual router, wherein the virtual router performs control-flow processing for the virtual network devices, and wherein the virtual router functions of destination lookup and packet forwarding are incurred only on control-flow processing;

wherein the virtual network devices and virtual router form a virtual subnet.

12. (Original) The computer program product according to claim 11, wherein the virtual network devices are host channel adapters.

13. (Original) The computer program product according to claim 11, wherein the virtual network devices are target channel adapters.

14. (Original) The computer program product according to claim 11, further comprising instructions for assigning unique identifiers to the virtual network devices.

15. (Currently amended) The computer program product according to claim [[1]] 11, further comprising instructions for virtualizing a plurality of subnets on the single multi-function chip by means of software.

16. (Original) The computer program product according to claim 11, further comprising instructions for registering the virtual subnet with a physical subnet.

17. (Currently amended) The computer program product according to claim 16, wherein the physical subnet perceives the single multi-function chip as only a single router with multiple [[HCAs]] Host Channel Adapters residing behind it.

18. (Original) The computer program product according to claim 16, wherein nodes in the physical subnet communicate with the virtual subnet through the virtual router.

19. (Currently amended) A system for partitioning a computer network end node, the system comprising:

a first virtualizing component which virtualizes a plurality of network devices on a single multi-function chip to form virtual network devices; and

a second virtualizing component which virtualizes at least one router on the single multi-function chip to form a virtual router, wherein the virtual router performs control-flow processing for the virtual network devices, and wherein the virtual router functions of destination lookup and packet forwarding are incurred only on control-flow processing;

wherein the virtual network devices and virtual router form a virtual subnet.

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